

**AMENDMENTS TO THE CLAIMS**

This listing of claims will replace all prior versions, and listings, of claims in the application:

1. (Currently Amended) A method of indexing a substrate relative to a printhead between printing consecutive transverse scans of the printhead in the printing of an image on the substrate, the method comprising:
  - indexing the substrate to move the substrate longitudinally an incremental distance;
  - measuring the actual distance moved by the substrate during the indexing and determining from the measuring the difference between the actual distance moved by the substrate and the incremental distance; and
  - in response to the difference, adjusting the longitudinal position of the printhead.
2. (Original) The method of claim 1 wherein:
  - the indexing of the substrate is carried out by driving a feed element an amount predetermined to move the substrate longitudinally the incremental distance through a printing station.
3. (Original) The method of claim 1 further comprising:
  - scanning transversely with the printhead in the adjusted longitudinal position.
4. (Currently Amended) The method of claim 1 further comprising:
  - printing a second of the consecutive transverse scans of the printhead by scanning transversely with the printhead in the adjusted longitudinal position; then,
  - between printing the second of the consecutive transverse scans of the printhead and a next consecutive transverse scan of the printhead in the printing of the image on the substrate,
  - further indexing the substrate longitudinally the incremental distance modified by the amount that the longitudinal position of the printhead was adjusted.

**5. (Original)** The method of claim **1** further comprising:

the measuring the actual distance moved by the substrate includes measuring the distance relative to a fixed frame of a printing machine.

**6. (Original)** The method of claim **1** further comprising:

the measuring the actual distance moved by the substrate includes measuring the distance relative to the longitudinal position of the printhead.

**7. (Currently Amended)** A method of ink jet printing comprising:

ink jet printing, with a printhead at a printing station, a first row of an image transversely across a substrate that is stationary at a printing station;

then, feeding the substrate longitudinally through the printing station in response to a feed signal from a controller that is representative of a given feed distance, and measuring the actual distance that the substrate moves longitudinally when so fed;

then, calculating, as a correction distance, ~~the difference between the given feed distance and~~ less the measured actual distance;

then, moving the printhead longitudinally the correction distance;

then, ink jet printing a further row of the image transversely across a substrate, with the substrate stationary at a printing station.

**8. (Currently Amended)** The method of claim **7** further comprising:

after printing the further row of the image, further feeding the substrate longitudinally through the printing station in response to a feed signal from the controller, the feed signal being representative of a given feed distance less the calculated correction distance.

**9. (Original)** The method of claim 7 further comprising:

after printing the further row of the image, moving the printhead longitudinally to bring the printhead to a reference position;  
further feeding the substrate longitudinally through the printing station in response to a feed signal from the controller that is representative of the given feed distance less the calculated correction distance and adjusted distance.

**10. (Currently Amended)** The method of any of ~~the above method~~ claims **1-6 or 20-21** wherein:

the adjusting includes moving the printhead longitudinally in the direction of the indexing when the ~~incremental~~actual distance is greater than the ~~actual~~incremental distance and is in a direction opposite the direction of the indexing when the ~~incremental~~actual distance is less than the ~~actual~~incremental distance.

**11. (Currently Amended)** The method of any of ~~the above method~~ claims **7 or 8** wherein:

the ink jet printing is carried out with the printhead moving transversely across a bridge and the printhead is moved longitudinally by moving the bridge relative to a fixed frame.

**12. (Currently Amended)** The method of any of ~~the above method~~ claims **7 or 8** wherein:

the ink jet printing is carried out with the printhead moving transversely across a bridge and the printhead is moved longitudinally by moving the printhead relative to the bridge.

**13. (Currently Amended)** An ink jet printing apparatus comprising:

a frame;  
a bridge extending transversely across the frame and defining a printing station;  
~~a motion system configured to move the printhead longitudinally relative to the frame;~~  
a feed system configured to advance a substrate longitudinally through the printing station;  
a printhead moveable transversely across the bridge to print a row of the image across the substrate at the printing station;  
a motion system configured to move the printhead longitudinally relative to the frame;

a controller operable to activate the feed system to perform an indexing motion of the substrate longitudinally a predetermined distance through the printing station;  
a web position measurement device operable to measure and communicate to the controller a signal corresponding to an actual distance moved by the substrate during the indexing motion; and  
the controller being operable to activate the motion system to move the printhead longitudinally a correction distance corresponding to the ~~difference between actual distance moved by the substrate during the indexing motion and a~~ less the predetermined distance.

**14.** (Currently Amended) The apparatus of claim **13** wherein:

the bridge is longitudinally moveable relative to the frame by the motion system; and  
the controller is operable to activate the motion system to move the bridge longitudinally relative to the frame to thereby move the printhead longitudinally the correction distance ~~corresponding to the difference between actual distance moved by the substrate during the indexing motion and a predetermined distance~~.

**15.** (Original) The apparatus of claim **14** wherein:

the motion system includes a linear servo motor having a longitudinally extending stator fixed to the frame and an armature fixed to the bridge and responsive to the controller.

**16.** (Currently Amended) The apparatus of claim **13** wherein:

the printhead is longitudinally moveable relative to the bridge by the motion system; and  
the controller is operable to activate the motion system to move the printhead longitudinally relative to the bridge to thereby move the printhead longitudinally the correction distance ~~corresponding to the difference between actual distance moved by the substrate during the indexing motion and a predetermined distance~~.

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**17. (Original)** The apparatus of any of claims **13** through **16** wherein:

the web position measurement device includes an encoder responsive to the motion of the substrate relative thereto.

**18. (Currently Amended)** The apparatus of ~~any of~~ claims **13** through ~~17~~ wherein:

the web position measurement device is fixed to the frame.

**19. (Currently Amended)** The apparatus of ~~any of~~ claims **13** through ~~17~~ wherein:

the web position measurement device is fixed to the bridge.

**20. (New)** The method of claim **1** wherein:

the adjusting of the longitudinal position of the printhead is carried out by moving the bridge longitudinally relative to a fixed frame or moving the printhead longitudinally relative to the bridge.

**21. (New)** The method of claim **1** wherein:

the adjusting of the longitudinal position of the printhead is carried out by moving the bridge longitudinally relative to a fixed frame.